16H #23



#23

1600

TECH CENTER 1600/2900

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/442,489C

DATE: 01/09/2003 TIME: 11:43:40

Input Set: A:\SN 09-442,489 amended sequence listing without

markings.txt

```
4 <110> APPLICANT: Albertsen, Hans
        Anand, Rakesh
 5
        Carlson, Mary
 6
        Groden, Joanna
7
        Hedge, Philip John
8
        Joslyn, Geoff
 9
10
        Kinzler, Kenneth
11
        Markham, Alexander Fred
12
        Nakamura, Yusuke
13
        Thliveris, Andrew
         Vogelstein, Bert
14
        White, Raymond L.
15
17 <120> TITLE OF INVENTION: APC Antibodies
                                                           ENTERED
20 <130> FILE REFERENCE: 001107.78817
22 <140> CURRENT APPLICATION NUMBER: US 09/442,489C
23 <141> CURRENT FILING DATE: 1999-11-18
25 <150> PRIOR APPLICATION NUMBER: US 08/452,654
26 <151> PRIOR FILING DATE: 1995-05-25
28 <150> PRIOR APPLICATION NUMBER: US 08/289,548
29 <151> PRIOR FILING DATE: 1994-08-12
31 <150> PRIOR APPLICATION NUMBER: US 07/741,940
32 <151> PRIOR FILING DATE: 1991-08-08
34 <160> NUMBER OF SEQ ID NOS: 154
36 <170> SOFTWARE: FastSEQ for Windows Version 4.0
38 <210> SEQ ID NO: 1
39 <211> LENGTH: 9606
40 <212> TYPE: DNA
41 <213> ORGANISM: Homo sapiens
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                                                                           60
                                                                          120
45 ttaaagcaag ttgaggcact gaagatggag aactcaaatc ttcgacaaga gctagaagat
                                                                          180
46 aattccaatc atcttacaaa actggaaact gaggcatcta atatgaagga agtacttaaa
                                                                          240
47 caactacaag gaagtattga agatgaagct atggcttctt ctggacagat tgatttatta
                                                                          300
48 gagcgtctta aagagcttaa cttagatagc agtaatttcc ctggagtaaa actgcggtca
                                                                          360
49 aaaatgtccc tccgttctta tggaagccgg gaaggatctg tatcaagccg ttctggagag
                                                                          420
50 tgcagtcctg ttcctatggg ttcatttcca agaagagggt ttgtaaatgg aagcagagaa
                                                                          480
51 agtactggat atttagaaga acttgagaaa gagaggtcat tgcttcttgc tgatcttgac
                                                                          540
52 aaagaagaaa aggaaaaaga ctggtattac gctcaacttc agaatctcac taaaagaata
                                                                          600
53 gatagtette etttaactga aaattttee ttacaaacag atttgaccag aaggeaattg
                                                                          660
54 gaatatgaag caaggcaaat cagagttgcg atggaagaac aactaggtac ctgccaggat
                                                                          720
55 atggaaaaac gagcacagcg aagaatagcc agaattcagc aaatcgaaaa ggacatactt
56 cgtatacgac agcttttaca gtcccaagca acagaagcag agaggtcatc tcagaacaag
                                                                          780
57 catgaaaccg gctcacatga tgctgagcgg cagaatgaag gtcaaggagt gggagaaatc
                                                                          840
```

PATENT APPLICATION: US/09/442,489C

DATE: 01/09/2003 TIME: 11:43:40

Input Set : A:\SN 09-442,489 amended sequence listing without

markings.txt

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58 aacatggcaa	cttctqqtaa	tggtcagggt	tcaactacac	gaatggacca	tgaaacagcc	900
FO ==+=+++	attactactac	cacacactct	gcacctcqaa	ggctgacaag	Cacciggga	960
co accordated	apataataa	++cattqttq	tcaatqcttq	glacicalya	Laaggacgac	1020
C1 =+=+=================================	ctttactaac	tatototago	tcccaagaca	golgialace	Catgogacag	1080
CO + -+ +	++cctctcct	caticcagett	ttacatqqca	algacaaaya	Clargeaceg	1140
(2 ++	accadadacad	taaagaggct	caaaccaaaa	ccagiguage	acticacaac	1200
CA atanttanat	cacadectda	tracaagaga	aacaaacata	aaattccgagt	CCCCCCCCC	1260
CE ++~~~~~~~~	tacacactta	ctataaaacc	tattaggagt	ggcaggaage	ccacgaacca	1320
CC	200202222	tccaatgcca	actcctqttq	addallayar	Cigicologue	1380
C7	+ a a t da a a c t	ttcatttgat	gaagagcata	gacatycaat	gaacgaacca	1440
CO	aggesttac	agaattattg	caagtggact	gigaaaiyia	Lyggettaet	1500
CO	acactattac	actaagacga	tatoctodaa	Laggeringae	addettgaet	1560
70 111	+ 200022022	agetacgeta	tactctatua	adyyctycac	gagageaeee	1620
71	thanatetra	aagtgaagac	ttacagcagg	llattycaay	cycccagagg	1680
70 sotttat	aacaaacaaa	totaaatagt	aaaaaqacqu	Lycyayaayi	eggaagegeg	1740
72	tagaatatac	+++agaagtt	aaaaaqqaat	Caacccccaa	aagegeaceg	1800
74	agaatttatc	agcacattgc	actgagaata	aagergarar	acgegeegee	1860
75	++~~~	agttagcact	cttacttacc	qqaqccayac	adacacecea	1920
76	anagt gragger	taggatatta	cadaatalal	Cayculgae	agecacaaa	1980
77	aacaaateet	aagagagac	aactgtctac	addelliale	acaacaccc	2040
70	~+++~acaat	agtcagtaat	gcatgtggaa	Cilligiyyaa	ccccagoa	2100
70toota	SDDSSSSSS	adcattatqq	gacatggggg	cagilageal	geteaagaae	2160
00 -++++	Canadeacaa	aatgattgct	atgggaagig	Ciglagette	aaggaacoco	2220
01 -+	agactacasa	- otacaaggat	gccaatalla	Lyttictigg	Cicaageeeg	2280
00	2+4++24422	acaaaaaaacc	ctagaagcag	aditagaty	ccagcaccca	2340
00 1	++ ~~ ~ ~ ~ + + +	agacaattta	agreceaagg	Calculatey	Laglaageag	2400
04	anagt ct ct a	taataattat	gtttllyaca	Claatigaca	cgacgacaa	2460
05	ヘナナナナココナコの	taacaacata	ractdtcciii	Caccatatt	gaacaccaca	2520
00 -+ -+ +	actectette	atcaagagga	i adcttadala	. quictogett	. cgaaaaagas	2580
07++	anagagagagagagagagagagagagagagagagagaga	cadaattagt	ctaggcaaci	accatccage	aacagaaaac	2640
87 agaagtttgg 88 ccaggaactt	cttcaaagcg	aggtttgcag	atctccacca	ctgcagccca	gattgccaaa	2700
00 -++-	and at caac	cattcatacc	: tctcaddaad	acayaayıı	. Egggeeeaco	2760
00	attatata20	adatdadada	a aatgcactta	l yaayaayuu	, tyctycodae	2820
01+	acacttacaa	- tttcactaac	i toddaaaall	. Caaatayya	acyceocacy	2880
92 ccttatgcca	acacciacaa	caadadatct	tcaaatgata	gtttaaatag	g tgtcagtagt	2940
93 aatgatggtt	adctagaata	aggtcaaato	r aaaccctcga	i ttgaatccta	a ttctgaagat	3000
94 gatgaaagta	acygraaaag	ttatootcaa	a tacccageco	acctagecea	a taaaatacat	3060
95 agtgcaaatc	agettegeag	taatgatga	gaactagata	caccaataaa	a ttatagtctt	3120
00	atanacaatt	- daactctdda	a addcaaadt	; Cilicadayaa	Lyadagacyy	3180
07	aacacataat	- agaagatgaa	a ataaaacaac	i gigaycaaa	y acadecady	3240
00+	α	· tatttataci	r dadadcacu	, alyalaaac	Coccaageee	3300
00	++~~~~~~~	. adaatdtdt1	r totocataca	a qqtcacqqqq	g agccaacgge	3360
100	a atamantar	ra ttataard	ar ddaallaau	ic adadiyid	ig coageous	3420
101	~ ~+~~~+~+	ra anathata:	an cetacedai	li alayiyaa	og ccaocoogaa	3480
100	+ ~ ~ /	ra arararari	ra acaaalla	la qualada	ta taatgaagag	3540
400	~ +~~~+~~~	o tattoatt	ar agritadd	at atyccaca	ga tuttottot	3600
101	+ + + + t	c atteteaa:	ad adticalc	ly yacaaayc	ay tuuuuuooguu	3660
104 tcacagaaa	t agreater	ra daatadda	cc acacette	at ctaatqcc	aa gaggcagaat	3720
105 catatgtct	caagcagt	ya yaatacyt To acadadta	ga agtggtca	gc ctcaaaag	gc tgccacttgc	3780
106 cagetecat	.c caagiici	je acagagia	J~ ~J~JJ~~~	, ,	=	

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				11.5		tactccaata	3840
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10	8 tgtttttcaa	gatgtagttc	attatcatct	ttgtcatcag	ctgaagatga	aataggatgt	3960
10	9 aatcagacga	cacaggaagc	agattctgct	aataccctgc	aaatagcaga	ataaaayya	4020
11	0 aagattggaa	ctaggtcagc	tgaagatcct	gtgagcgaag	ttccagcagt	greatageac	4080
11	1+	antechacae	actocagoot	totagtttat	cttcagaatc	ayccayycac	4140
11	2 anagotatta	aatttccttc	aggaggaaa	tctccctcca	aaagtggtgc	Leagacacce	4200
11	2 annattonac	ctdaacacta	tattcaggag	accccactca	Lyccay	atgeacetee	4260
11	A atcaattcac	ttgatagttt	tgagagtcgt	tcgattgcca	gctccgttca	gaytyaacca	4320
11	E + manataan	taataaataa	cattataagc	cccagtgatc	ttccagalag	CCCLggacaa	4380
11	6 accatgccac	caagcagaag	taaaacacct	ccaccacctc	ctcaaacagc	ccaaaccaag	4440
11	7 ~~~~~~	ctababataa	agcacctact	actaaaaaaa	gagagagtgg	acctaagcaa	4500
11	7 cgagaagtac 8 gctgcagtaa	atgctgcagt	tcagagggtc	caggttcttc	cagatgetga	acticacta	4560
7 7	0 22++++2000	cadagadtac	tccagatgga	ttttcttqti	Cattetayett	gagigeteeg	4620
10	O sacataasta	agccatttat	acagaaagat	gtggaattaa	gaataatgcc	LCCagillag	4680
10	1 ~~~~+ ~~~	atgggaatga	aacagaatca	gagcagccta	aagaatcaaa	Lyaaaaccaa	4740
10	2 ~~~~~~~~~	cadaaaaaac	tattgattct	gaaaaggacc	tattagatga	Licayatyat	4800
1 ^	2 ~~+~~+~+	aaatactaga	agaatgtatt	atttctqcca	tgccaacaaa	gicalcacgi	4860
10	1 2220002222	adccadccca	gactgcttca	aaattacctc	caccigigge	aayyaaacca	4920
10	E satasaataa	ctatatacaa	acttctacca	tcacaaaaca	ggttgcaacc	Ccaaaaycac	4980
10	6 attacttta	caccadadaa	tgatatgcca	cgggtgtatt	gtgttgaagg	gacacctata	5040
	7 000++++000	carctacate	totaagtgat	ctaacaatcq	aatooottoo	adatyaytta	5100
1 1	o actactagaa	nsttnannaa	aggaggagca	cagtcaggtg	aatttgaaaa	acgagatacc	5160
7 1	a sttactacan	Deepsannes	tacagatgag	gctcaaqqaq	gaaaaacccc	accigiance	5220
1.1	n ataceteast	tagatgacaa	taaagcagag	gaaggtgata	ttcttgcaga	alycallaat	5280
11	1 totactatac	ccaaagggaa	aagtcacaag	cctttccgtg	tgaaaaayat	aatggaccag	5340
1 1	22 atcoadcaad	, catctdcdtc	gtettetgea	cccaacaaaa	atcagilaya	Lygtaayaaa	5400
1.	2 2242224622	cttcaccagt	aaaacctata	ccacaaaata	ctgaatatag	gacacycyca	5460
7 -	A sassasata	r cagacticaaa	aaataattta	aatqctqaqa	gagttttctc	agacaacaaa	5520
1.) E ~ a + + a > > a a	, aacadaattt	gaaaaataat	tccaaggact	tcaatgataa	gullulaaal	5580
13	35 gatteaaaya 36 aatgaagata	a gagtcagagg	aagttttgct	tttgattcac	ctcatcatta	tttaataat	5640
1 .	27 gaaggaacto	- cttactqttt	ttcacqaaat	gattettiga	gillicitaga	Lettigatgat	5700
1	37 gaaggaacte 38 gatgatgttg	g acctttccag	ggaaaaggct	gaattaagaa	aggcaaaaga	adalaayyaa	5760
1	39 tcagaggcta	a aagttaccag	ccacacagaa	ctaacctcca	accaacaatc	agetaacaag	5820
1	10 acacaagcta	a ttgcaaagca	gccaataaat	cgaggtcagc	ctaaacccat	. acticayaaa	5880
1	10 acacaagete 11 caatccactt	ttccccagtc	atccaaagac	ataccagaca	gaggggcagc	ttaatatata	5940
1	41 daatddact 42 aagttacaga	a attttgctat	tgaaaatact	ccagtttgct	tttctcataa	tateaaaaga	6000
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1	43 agreered 44 actgageee	c ctgactcaca	gggagaacca	agtaaacctc	aagcarcage	teterettet	6120
1	45 aaatcattt	c atgttgaaga	, taccccagtt	tgtttctcaa	gaaacaguu	antagganaa	6180
1	16 0++ 20+ 2++	r actitionage	. taacctatta	r caggaatgta	taageteege	aatyccaaaa	6240
1	46 Citaglaliq 47 aagaaaaag	c cttcaagact	: caagggtgat	aatgaaaaac	atagreecas	adatatyyyt	6300
1	47 aagaaaaag 48 ggcatatta	g gtgaagatct	gacacttgat	ttgaaagata	tacagagaco	agattcagaa	6360
1	40 ggcatatta 49 catggtcta	t cccctgatto	agaaaatttt	gattggaaag	j ctattcagga	aggigeaaac	6420
- 1	En taantaata	a ataatttaca	: tcaadctdct	actactacat	gttlatctag	j acaageeeeg	6480
1	E1 + a+ a a+ + c a/	~ attccatcct	· ttccctgaaa	ı tcaqqaalcı	, ciciggyair	accarredae	6540
1	EQ attacacat	a stasaasaa	a aaaacccttt	: acaaqtaata	aaggcccac	j aattetaaaa	6600
1	E2 agagggaga	a apadtacatt	- ggaaactaaa	aagatagaat	ctgaaagta	a ayyaattaaa	6660
7	E 1 ~~~~~~~	a aagettataa	a aagtttgatt	: actggaaaag	g ttcgatcta	licayaaacc	6720
1	54 ggaggaaaa 55 tcaggccaa	a tgaaacagc	c ccttcaagca	a aacatgcctt	t caatctcic	y aggcaggaca	0,20

PATENT APPLICATION: US/09/442,489C TIME: 11:43:40

DATE: 01/09/2003

Input Set : A:\SN 09-442,489 amended sequence listing without

markings.txt

				+ + + -	annat act at	++c+22222	6780
156	atgattcata	ttccaggagt	tcgaaatagc	tcctcaagta	caagteetgt	aggaagagt	6840
157	ggcccacccc	ttaagactcc	agcctccaaa	agccctagtg	aaggtcaaac	agccaccacc	6900
158	tctcctagag	gagccaagcc	atctgtgaaa	tcagaattaa	geeetgitge	ttaggcagaca	6960
159	tcccaaatag	gtgggtcaag	taaagcacct	tctagatcag	gatttagaga	assetssatt	7020
160	tcaagacctg	cccagcaacc	attaagtaga	cctatacagt	ctcctggccg	aaactcaatt	7020
161	tcccctggta	gaaatggaat	aagtcctcct	aacaaattat	ctcaacticc	taggacarca	7140
162	tcccctagta	ctgcttcaac	taagtcctca	ggttctggaa	aaatgtcata	ractrocca	7200
163	ggtagacaga	tgagccaaca	gaaccttacc	aaacaaacag	gtttatccaa	gaatgecagt	7260
164	agtattccaa	gaagtgagtc	tgcctccaaa	ggactaaatc	agatgaataa	tggtaatgga	7320
165	gccaataaaa	aggtagaact	ttctagaatg	tcttcaacta	aatcaagtgg	aagtgaatct	7320
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167	ccaaccttaa	gaagaaaatt	ggaggaatct	gcttcatttg	aatctctttc	tecateatet	7500
168	agaccagctt	ctcccactag	gtcccaggca	caaactccag	ttttaagtcc	ttcccttcct	7560
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170	aatctcagtc	ccactataga	gtataatgat	ggaagaccag	caaagcgcca	tgatattgca	7680
171	cggtctcatt	ctgaaagtcc	ttctagactt	ccaatcaata	ggtcaggaac	ctggaaacgt	7740
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173	tcatcttcaa	ttctttctgc	ttcatcagaa	tccagtgaaa	aagcaaaaag	tgaggatgaa	
174	aaacatgtga	actctatttc	aggaaccaaa	caaagtaaag	aaaaccaagt	atccgcaaaa	7860
175	ggaacatgga	gaaaaataaa	agaaaatgaa	ttttctccca	caaatagtac	ttctcagacc	7920
176	gtttcctcag	gtgctacaaa	tggtgctgaa	tcaaagactc	taatttatca	aatggcacct	7980
177	gctgtttcta	aaacagagga	tgtttgggtg	agaattgagg	actgtcccat	taacaatcct	8040
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179	gcaaatccaa	acattaaaga	ttcaaaagat	aatcaggcaa	aacaaaatgt	gggtaatggc	8160
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181	accectaace	aaaaaqqaac	tgagataaaa	ccaggacaaa	ataatcctgt	ccctgtatca	8280
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183	cacagttcac	ctagtgggac	tgttgctgcc	agagtgactc	cttttaatta	caacccaagc	8400
184	cctaggaaaa	gcagcgcaga	tagcacttca	gctcggccat	ctcagatccc	aactccagtg	8460
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186	agtcctaagc	gccattctgg	gtcttacctt	gtgacatctg	tttaaaagag	aggaagaatg	8580
187	aaactaagaa	aattctatgt	taattacaac	tgctatatag	acattttgtt	tcaaatgaaa	8640
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191	agtaggatcc	catcccaact	tccttaatta	ttgcttgtct	aaaataatga	acactacaga	8880
192	taggaaatat	gatatattgc	tgttatcaat	catttctaga	ttataaactg	actaaactta	8940
193	catcagggga	aaattggtat	ttatqcaaaa	aaaaaatgtt	tttgtccttg	tgagtccatc	9000
194	taacatcata	attaatcatg	tggctgtgaa	attcacagta	atatggttcc	cgatgaacaa	9060
195	gtttacccag	cctactttac	ttactgcatg	aatgaaactg	atggttcaat	ttcagaagta	9120
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197	cactattttq	tgctccaaac	aaaacaaaaa	tctgtgtaac	tgtaaaacat	tgaatgaaac	9240
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199	gttgtatatt	ctggtatttg	aggtgagatg	gctgctcttt	attaatgaga	catgaattgt	9360
200	ot ct caacao	aaactaaatq	aacatttcaq	aataaattat	tgctgtatgt	aaactgttac	9420
201	tgaaattggt	atttgtttga	agggtttgtt	tcacatttgt	attaattaat	tgtttaaaat	9480
202	gcctctttta	aaagcttata	taaattttt	cttcagcttc	: tatgcattaa	. gagtaaaatt	9540
203	cctcttactq	taataaaaac	attgaagaag	actgttgcca	cttaaccatt	ccatgcgttg	9600
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PATENT APPLICATION: US/09/442,489C TIME: 11:43:40

Input Set: A:\SN 09-442,489 amended sequence listing without

DATE: 01/09/2003

markings.txt

Output Set: N:\CRF4\01092003\I442489C.raw

206 <210> SEQ ID NO: 2 207 <211> LENGTH: 2843 208 <212> TYPE: PRT 209 <213> ORGANISM: Homo sapiens 211 <400> SEQUENCE: 2 212 Met Ala Ala Ala Ser Tyr Asp Gln Leu Leu Lys Gln Val Glu Ala Leu 5 214 Lys Met Glu Asn Ser Asn Leu Arg Gln Glu Leu Glu Asp Asn Ser Asn 25 216 His Leu Thr Lys Leu Glu Thr Glu Ala Ser Asn Met Lys Glu Val Leu 40 218 Lys Gln Leu Gln Gly Ser Ile Glu Asp Glu Ala Met Ala Ser Ser Gly 55 220 Gln Ile Asp Leu Leu Glu Arg Leu Lys Glu Leu Asn Leu Asp Ser Ser 75 222 Asn Phe Pro Gly Val Lys Leu Arg Ser Lys Met Ser Leu Arg Ser Tyr 224 Gly Ser Arg Glu Gly Ser Val Ser Ser Arg Ser Gly Glu Cys Ser Pro 100 105 226 Val Pro Met Gly Ser Phe Pro Arg Arg Gly Phe Val Asn Gly Ser Arg 120 228 Glu Ser Thr Gly Tyr Leu Glu Glu Leu Glu Lys Glu Arg Ser Leu Leu 135 230 Leu Ala Asp Leu Asp Lys Glu Glu Lys Glu Lys Asp Trp Tyr Tyr Ala 150 155 232 Gln Leu Gln Asn Leu Thr Lys Arg Ile Asp Ser Leu Pro Leu Thr Glu 170 165 234 Asn Phe Ser Leu Gln Thr Asp Leu Thr Arg Arg Gln Leu Glu Tyr Glu 185 180 236 Ala Arg Gln Ile Arg Val Ala Met Glu Glu Gln Leu Gly Thr Cys Gln 200 195 238 Asp Met Glu Lys Arg Ala Gln Arg Arg Ile Ala Arg Ile Gln Gln Ile 215 240 Glu Lys Asp Ile Leu Arg Ile Arg Gln Leu Leu Gln Ser Gln Ala Thr 230 235 242 Glu Ala Glu Arg Ser Ser Gln Asn Lys His Glu Thr Gly Ser His Asp 245 250 244 Ala Glu Arg Gln Asn Glu Gly Gln Gly Val Gly Glu Ile Asn Met Ala 265 260 246 Thr Ser Gly Asn Gly Gln Gly Ser Thr Thr Arg Met Asp His Glu Thr 280 247 275 248 Ala Ser Val Leu Ser Ser Ser Ser Thr His Ser Ala Pro Arg Arg Leu 295 250 Thr Ser His Leu Gly Thr Lys Val Glu Met Val Tyr Ser Leu Leu Ser 310 315 252 Met Leu Gly Thr His Asp Lys Asp Asp Met Ser Arg Thr Leu Leu Ala 330 325 254 Met Ser Ser Ser Gln Asp Ser Cys Ile Ser Met Arg Gln Ser Gly Cys 345 340

RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/09/442,489C

DATE: 01/09/2003 TIME: 11:43:41

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Output Set: N:\CRF4\01092003\I442489C.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 45,1057,1117,1553,1559,1581,1590,1639,1644,1749,1757,1769 Seq#:3; N Pos. 1948,1961,1962,1987,1991,2162,2183,2201,2204,2241,2242,2461

Seq#:3; N Pos. 2570,2574,2576,3142

Seq#:16; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13

Seq#:32; N Pos. 17
Seq#:36; N Pos. 8